

### Claims

1. A method to inhibit cell division of a cancer cell comprising introducing at  
5 least one inhibitory RNA molecule into said cancer cell wherein said inhibitory RNA molecule inhibits the expression of at least one gene which mediates at least one essential process in said cell.
2. A method according to Claim 1 wherein said RNAi molecule inhibits at least  
10 one step in the cell-division-cycle of said cell.
3. A method according to Claim 1 or 2 wherein said cell is a germ cell carcinoma cell, particularly a teratocarcinoma cell.
- 15 4. A method according to any of Claims 1-3 wherein said RNAi molecule is designed with reference to the nucleic acid sequence shown in any of Figures 9-16.
5. An RNAi molecule characterised in that it comprises the coding sequence of at least one gene that mediates at least one essential process in at least one cancer cell  
20 6. An RNAi molecule according to Claim 5 wherein said RNAi molecules comprise modified ribonucleotide bases.
7. An RNAi molecule according to any of Claims 5-7 wherein said RNAi  
25 molecule comprises at least one of the nucleic acid sequences, or part thereof, presented in any one of Figures 9-16.
8. A nucleic acid molecule comprising an expression cassette which cassette comprises a nucleic acid sequence which encodes at least part of a gene that mediates  
30 at least one essential process in at least one hyperproliferative cell wherein said

cassette is adapted by the provision of at least one promoter such that both sense and antisense nucleic acid molecules are transcribed from said cassette.

9. A nucleic acid molecule according to Claim 8 wherein said cassette is  
5 provided with at least two promoters adapted to transcribe sense and antisense strands of said nucleic acid molecule.

10. A nucleic acid according to Claim 8 wherein said cassette comprises a nucleic acid molecule wherein said molecule comprises a first part linked to a second part  
10 wherein said first and second parts are complementary over at least part of their sequence and further wherein transcription of said nucleic acid molecule produces an RNA molecule which forms a double stranded region by complementary base pairing of said first and second parts.

11. A nucleic acid according to Claim 10 wherein said first and second parts are  
15 linked by at least one nucleotide base.

12. A nucleic acid according to Claim 10 wherein said linker is at least 10  
nucleotide bases.

20 13. A nucleic acid according to any of Claims 8-12 wherein said cassette comprises a nucleic acid molecule, or part thereof, consisting of a nucleic acid sequence as presented in any one of Figures 9-16.

25 14. A vector comprising a cassette according to any of Claims 8-13.

15. A nucleic acid or vector according to any of Claims 8-14 wherein said promoter is a cancer specific promoter.

30 16. A nucleic acid or vector according to any of Claims 8-15 wherein said promoter is a embryonic stem cell, a germ cell or an embryonal carcinoma cell specific promoter.

17. A method to treat a condition which would benefit from an inhibition of cell division comprising administering an RNAi molecule, nucleic acid molecule or vector according to any of Claims 5-16.

5

18. A method according to Claim 17 wherein said condition is cancer.

19. A method according to Claim 18 wherein said cancer is a germ cell cancer.

10 20. A method according to Claim 19 wherein said cancer is a teratocarcinoma.

21. A method according to Claim 20 wherein said cancer is selected from the group consisting of: seminoma, embryonal carcinoma, yolk sac carcinoma and choriocarcinoma.

15

22. The use of an RNAi molecule, nucleic acid molecule or vector according to any of Claims 5-16 for the manufacture of a medicament for use in the treatment of cancer.

20 23. Use according to Claim 22 wherein said cancer is a germ cell cancer.

24. Use according to Claim 23 wherein said cancer is a teratocarcinoma.

25 25. Use according to Claim 24 wherein said teratocarcinoma is selected from the group consisting of: seminoma, embryonal carcinoma, yolk sac carcinoma and choriocarcinoma.

30